

ABSTRACT

A metallurgical interconnection for electronic devices is described, wherein the interconnection has first and second interconnection metals. The first metal is shaped to enlarge the contact area, thus providing maximum mechanical interconnection strength, and to stop nascent cracks, which propagate in the interconnection. Preferred shapes include castellations and corrugation. The castellations may include metal protrusions, which create wall-like obstacles in the interconnection zones of highest thermomechanical stress, whereby propagating cracks are stopped. The surface of the first metal has an affinity to form metallurgical contacts. The second metal is capable of reflowing. The first metal is preferably copper, and the second metal tin or a tin alloy.